ABSTRACT OF THE DISCLOSURE

A method of liquefying a gas is disclosed and which includes the steps of pressurizing a liquid; mixing a reactant composition with the pressurized liquid to generate a high pressure gas; supplying the high pressure gas to an expansion engine which produces a gas having a reduced pressure and temperature, and which further generates a power and/or work output; coupling the expansion engine in fluid flowing relation relative to a refrigeration assembly, and wherein the gas having the reduced temperature is provided to the refrigeration assembly; and energizing and/or actuating the refrigeration assembly, at least in part, by supplying the power and/or work output generated by the expansion engine to the refrigeration assembly, the refrigeration assembly further reducing the temperature of the gas to liquefy same.